AMENDMENT TO THE CLAIMS

The listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A multicolor particle analyzer including:

a capillary providing a predetermined detection volume;

means for projecting a light beam through said capillary to illuminate said detection volume in said capillary;

means for causing a fluid containing sample particles which naturally fluoresce or are tagged to fluoresce and emit light at one or more distinct wavelengths to flow along the capillary through said detection volume;

a tunable filter adapted to sequentially shift pass band between two or more wavelengths multiple times as each particle passes through the illuminated detection volume, thereby when in operation the tunable filter sequentially passes emitted light at the two or more wavelengths in a predetermined direction; and

a single fluorescence detector disposed in the predetermined direction for receiving and detecting the emitted light at the two or more wavelengths from said tunable filter and providing an output pulse for each particle passing through the illuminated detection volume.

Claim 2 (original): A multicolor particle analyzer as in claim 1 in which the tunable filter is an acousto-optic filter.

Claim 3 (previously amended): A multicolor particle analyzer as in claims 1 or 2 including a detector for detecting light scattered by said particles as they travel through the predetermined detection volume.

Claim 4 (canceled)

Claim 5 (currently amended): A method of analyzing particles each of which fluoresces and emits light at multiple different distinct wavelengths responsive to excitation light which comprises the steps of:

causing a fluid containing particles to be analyzed to flow through an analyzing region in a capillary;

applying excitation light to the analyzing region to cause each particle to emit light at its distinctive wavelengths as it passes through the analyzing region;

receiving the emitted light with a tunable optical filter [[that]] said filter is adapted to sequentially shift pass band between two or more wavelengths multiple times as each particle passes through the analyzing region, thereby in operation sequentially passing emitted light at the two or more wavelengths in a predetermined direction; and

detecting the emitted light at the two or more wavelengths passed by the filter with a single fluorescence detector disposed in the predetermined direction to provide output signals representative of the distinct wavelengths.

Claim 6 (original): The method of claim 5 wherein the particles are caused to flow at a rate such that the light emitted by a particle is passed by the tunable filter a number of times as the particle transits through the analyzing region.

Claim 7 (currently amended): A particle analyzer for analyzing particles in a sample fluid which fluoresce and emit light at one or more wavelengths comprising:

a capillary for receiving a sample fluid containing particles to be analyzed and providing a predetermined analyzing region;

a pump for causing the sample fluid to flow through the capillary;

a light source for projecting a light beam through the capillary to illuminate said analyzing region along the capillary whereby singulated particles flow through the illuminated analyzing region and emit fluorescent light at the one or more wavelengths;

a tunable optical filter adapted to sequentially shift pass band between two or more wavelengths multiple times as each particle passes through the illuminated analyzing volume, whereby when in operation the tunable optical filter sequentially passes emitted light at the two or more wavelengths in a predetermined direction;

a single fluorescence detector disposed in the predetermined direction for receiving said light at the two or more wavelengths passing by the tunable filter and provide an output pulse for each particle passing through the illuminated analyzing volume; and

a processor configured to receive said output pulse and provide an output signal representative of the amplitude of each of said one or more fluorescent wavelengths.

Claim 8 (original): A particle analyzer as in claim 7 in which the tunable filter is an acoustic-optic filter.

Claim 9 (currently amended): A method of analyzing particles in a fluid which fluoresce at one or more wavelengths comprising the steps of:

causing a fluid containing particles which fluoresce at one or more wavelengths to flow in a capillary past a source of illumination whereby the particles emit fluorescent light at the one or more wavelengths;

collecting the emitted light;

causing the collected emitted light to be incident on a tunable filter along a single predetermined direction;

sequentially shifting the passband of the tunable filter between two or more wavelengths multiple times as each particle passes through the illumination source;

repetitively detecting the emitted characteristic fluorescence of each of said particles multiple times during the transit of each of the particles through the illumination source using a single fluorescence detector disposed in the predetermined direction; and

providing output signals representative of the characteristic wavelength of each of said particles.

Claim 10 (canceled)

Claim 11 (previously presented): The multicolor particle analyzer of claim 1 wherein the tunable filter is adapted to shift pass band between at least four wavelengths during the transit of each particle through the illuminated detection volume.

Claim 12 (previously presented): The multicolor particle analyzer of claim 1 wherein the tunable filter is adapted to shift pass band between wavelengths each at least five times during the transit of each particle through the illuminated detection volume.

Claim 13 (previously presented): The multicolor particle analyzer of claim 1 wherein the tunable filter is adapted to shift pass band between at least four wavelengths each at least five times during the transit of each particle through the illuminated detection volume.

Claim 14 (previously presented): The method of claim 5 wherein the tunable optical filter is adapted to shift pass band between at least four wavelengths during the transit of each particle through the analyzing region.

Claim 15 (previously presented): The method of claim 5 wherein the tunable optical filter is adapted to shift pass band between at least four wavelengths each at least five times during the transit of each particle through the analyzing region.

Claim 16 (previously presented): The particle analyzer of claim 7 wherein the tunable optical filter is adapted to shift pass band between at least four wavelengths during the transit of each particle through the illuminated analyzing region.

Claim 17 (previously presented): The particle analyzer of claim 7 wherein the tunable optical filter is adapted to shift pass band between at least four wavelengths each at least five times during the transit of each particle through the illuminated analyzing region.

Claim 18 (previously presented): The method of claim 9 wherein the emitted characteristic fluorescence of each of said particles is repetitively detected at least four times during the transit of each particle through the illuminated volume.